MOAB UTAH
UMTRA Project

The U.S. Department of Energy Office of Environmental Management in Grand Junction, Colorado, manages the Moab Uranium Mill Tailings Remedial Action Project near Moab, Utah. This fact sheet provides an overview of the project.

Overview of Moab UMTRA Project

Background and Regulatory Setting

Uranium ore was mined in significant quantities in the United States for more than 40 years. Initially, the ore was mined and milled by private companies for federal government use in national defense programs. After the 1950s, uranium was also needed as fuel for nuclear power plants to produce electricity. These milling operations created process-related wastes and tailings, a radioactive sandlike material. The tailings were slurried to unlined impoundments that accumulated over time, forming piles. Excess water in the piles drained into underlying soils, contaminating the ground water.

Scientists, community leaders, and public officials became more aware of the potential health risks associated with long-term exposure to uranium mill tailings during the 1970s. Public concern about potential human health and environmental effects of uranium mill tailings led the U.S. Congress to pass the Uranium Mill Tailings Radiation Control Act (UMTRCA) in 1978 (Public Law 95–604), which required the cleanup of inactive uranium-ore processing sites. In 1983, the U.S. Environmental Protection Agency (EPA) developed regulations [Title 40 *Code of Federal Regulations* (CFR) Part 192] to protect the public and the environment from potential radiological and nonradiological hazards at inactive uranium-ore processing sites.

The U.S. Department of Energy (DOE) is responsible for cleaning up the millsites and for bringing ground water contamination at the former processing sites into compliance with EPA standards (Subpart B of 40 CFR 192). The radioactive materials are encapsulated in U.S. Nuclear Regulatory Commission (NRC)-accepted disposal cells. The NRC general license for post-closure requirements of UMTRCA sites is established in 10 CFR 40.27.

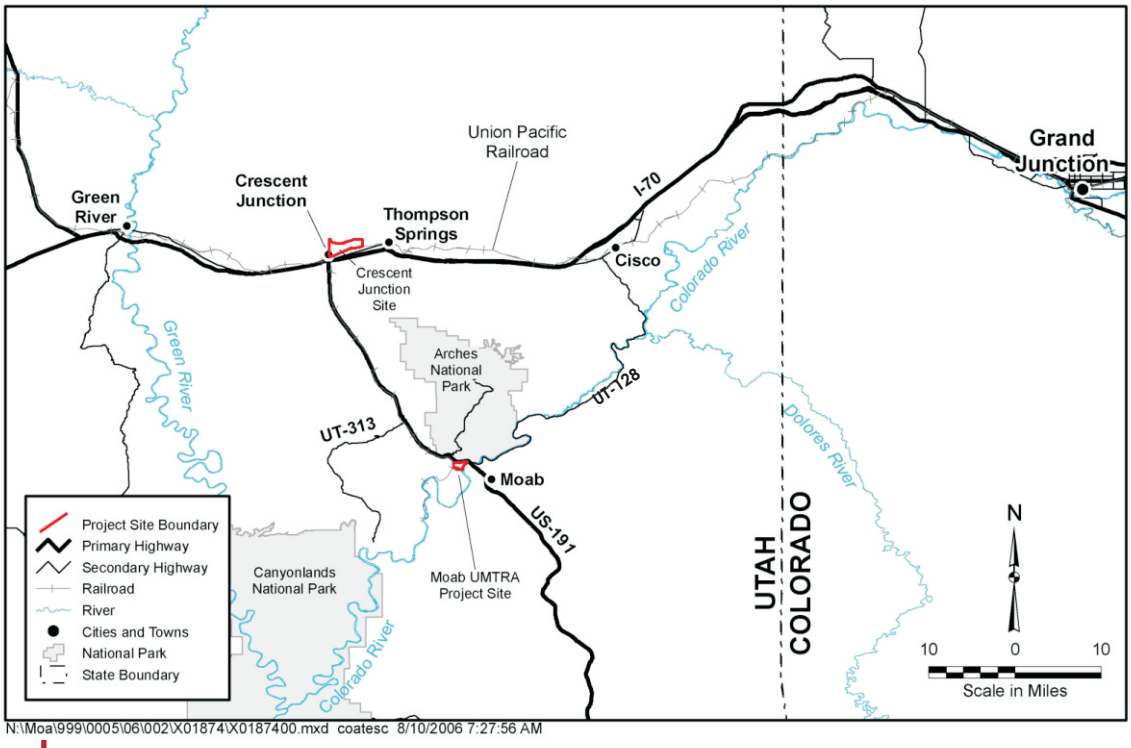

Figure 1. Location of Moab UMTRA Project Site

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Site Description and History

The DOE Moab Uranium Mill Tailings Remedial Action (UMTRA) Project site (see Figure 1 on first page) is located approximately 3 miles northwest of the city of Moab in Grand County, Utah, and includes the former Atlas Minerals Corporation (Atlas) uranium-ore processing facility. The site is situated on the west bank of the Colorado River at the confluence with Moab Wash. The site encompasses 439 acres, of which approximately 130 acres is covered by a uranium mill tailings pile (see Figure 2).

The Moab mill was constructed in 1956 by the Uranium Reduction Company, which operated the mill until 1962 when the assets were sold to Atlas. Uranium concentrate, the milling product, was sold to the U.S. Atomic Energy Commission through December 1970. During its years of operation, the mill processed an average of approximately 1,400 tons per day.

Atlas operated the site until 1984 under a license and regulatory authority provided by NRC. When the processing operations ceased in 1984, an estimated 12 million cubic yards (16 million tons) of mill tailings and tailings-contaminated soil were present in a pile located in the western portion of the property. Atlas placed an interim cover over the tailings pile in 1995 as part of decommissioning activities conducted between 1988 and 1995.

Atlas proposed to reclaim the tailings pile for permanent disposal in its current location but declared bankruptcy in 1998 and, in doing so, relinquished its license and forfeited its reclamation bond. Because NRC could not legally possess a site it regulated, NRC appointed PricewaterhouseCoopers as the Trustee of the Moab Mill Reclamation Trust and the licensee for the site. The Trustee used the forfeited reclamation bond funds to initiate site reclamation, conduct ground water studies, and perform site maintenance activities.

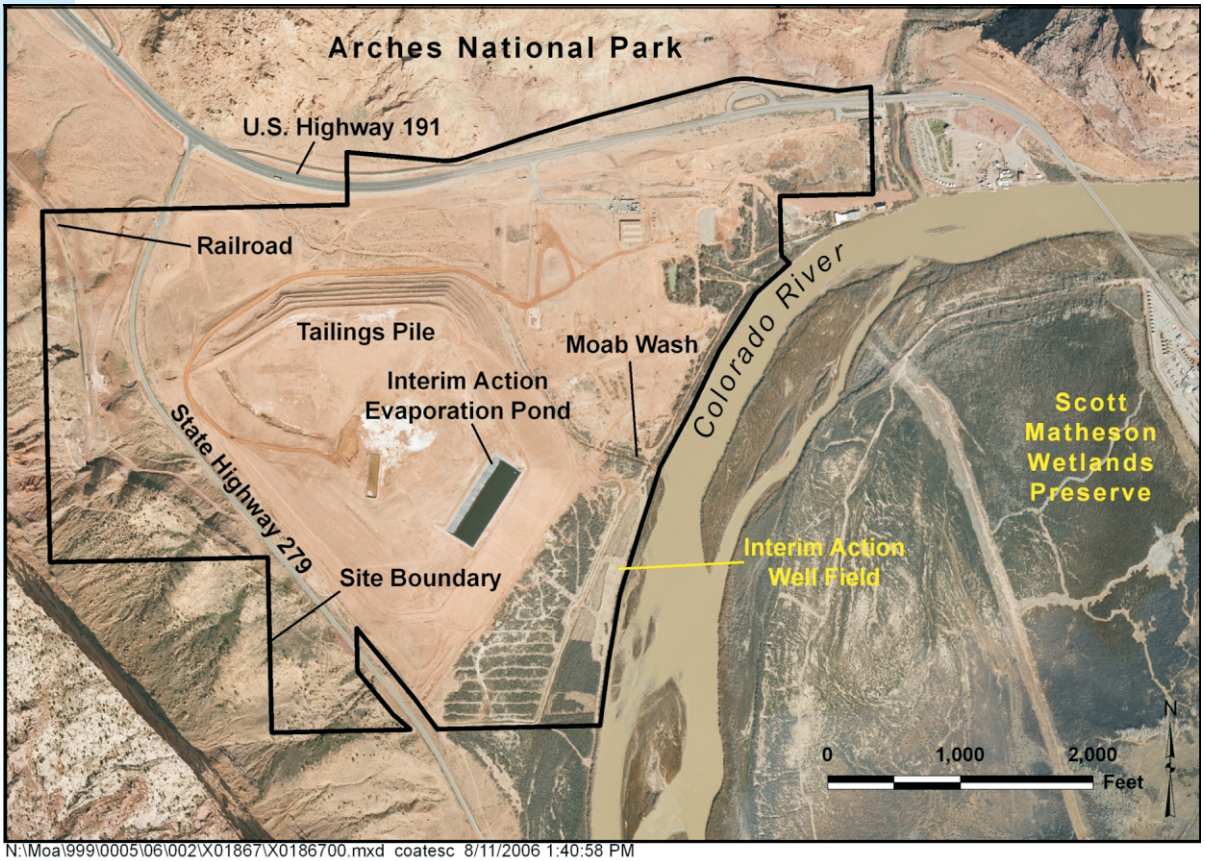

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Figure 2. Moab UMTRA Project Site

The Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001, Public Law 106–398, stipulated that the license issued by NRC for the materials at the Moab site be terminated and that the title and responsibility for cleanup be transferred to DOE. Title to the site was transferred to DOE on October 25, 2001. Specifically, the DOE Office of Environmental Management in Grand Junction, Colorado, now has primary responsibility for the Moab site. The act further designated that the Moab site undergo remediation in accordance with Title I of UMTRCA.

National Environmental Policy Act Implementation

DOE developed an Environmental Impact Statement (EIS) to fulfill the National Environmental Policy Act requirement of considering the full range of reasonable alternatives and associated environmental effects of significant federal actions. In compliance with National Environmental Policy Act requirements, DOE actively solicited public participation in its decisions that could affect the quality of human health and the environment. Twelve federal, state, local, and tribal agencies assisted DOE as cooperating agencies in the EIS process of identifying all reasonable alternatives and significant environmental, social, or economic impacts associated with the proposed actions.

In July 2005, DOE published the final EIS that presented the preferred alternatives of active ground water remediation and off-site disposal of the tailings pile and other contaminated materials at the proposed Crescent Junction, Utah, site using predominantly rail transportation. The preferred alternatives included cleanup and reclamation of the millsite and certain off-site properties known as vicinity properties. In September 2005, DOE issued the Record of Decision, which detailed the selection of the preferred alternatives and the basis for that decision.

Crescent Junction Disposal Site Information

The brown material is tailings that have been dumped in the Crescent Junction disposal cell.

In 2005, the U.S. Department of the Interior (DOI) granted DOE temporary withdrawal of approximately 2,300 acres of public domain lands near Crescent Junction for the disposal cell and buffer zone. In March 2008, DOI permanently transferred to DOE 500 of the 2,300 acres. During the temporary withdrawal renewal process for the remaining area, DOE will relinquish portions that are no longer needed back to public domain.

Preliminary Disposal Cell Statistics

Estimated volume of contaminated material in cell: 16 million tons (12 million cubic yards)

Average tailings radioactivity: 600 to 800 picocuries per gram of radium-226

Cell dimensions: The cell will be aligned in a general east-to-west direction and will be excavated about 25 feet below the existing grade. The cell will be roughly rectangular in shape and will be approximately 5,200 feet long by 2,400 feet wide. The estimated above-ground height of the contaminated materials will be 20 feet.

Cell design: The top of the contaminated materials will be capped with an 8- to 10-foot-thick, multi-layered cover composed of native soils and rock.

The permanent transfer area will be fenced.

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Current Status

DOE conducts ongoing site operations and maintenance activities, including conducting radiological assessments and environmental monitoring, and has implemented interim ground water cleanup efforts to prevent ammonia and other contaminants from reaching the Colorado River.

Extensive infrastructure construction was performed at the Moab and Crescent Junction sites in 2008 and early 2009. In April 2009, DOE began removing the 16 million tons of uranium mill tailings from the Moab site and relocating them by rail to the permanent disposal cell constructed at Crescent Junction. Tailings are excavated and conditioned in drying beds on top of the pile to reach the optimal moisture content for disposal. The tailings are then placed in steel containers with locking lids for transport. Currently, two train shipment are made daily Monday through Friday.

Contacts

For more information about the Moab UMTRA Project, contact

Donald Metzler
Moab Federal Project Director
U.S. Department of Energy
200 Grand Avenue, Suite 500
Grand Junction, CO 81501
(970) 257–2115
email: donald.metzler@gjem.doe.gov

You may also call our toll-free hotline at 1–800–637–4575 or send us an email at moabcomments@gjem.doe.gov. Moab UMTRA Project documents are available on the DOE website at http://www.gjem.energy.gov/moab and at Grand County Library in Moab; Thompson Springs Fire Station in Thompson Springs, Utah; or the DOE office in Grand Junction.